

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Original) A method for calibrating the work function of a non-contact voltage sensor, comprising:

preparing a reference sample to have a substantially stable work function;

measuring a voltage of the reference sample using the non-contact voltage sensor; and

determining a work function correction factor of the non-contact voltage sensor from the measured voltage.

2. (Original) The method of claim 1, wherein the step of determining the work function correction factor comprises determining a difference between the measured reference sample voltage and a previously measured voltage of the reference sample.

3. (Original) The method of claim 1, wherein the step of determining the work function correction factor comprises calculating the work function of the non-contact voltage sensor from a known work function of the reference sample and preset voltage values of the reference sample and the non-contact voltage sensor.

4. (Original) The method of claim 1, wherein the step of preparing the reference sample comprises controlling an environment around the reference sample.

5. (Original) The method of claim 4, further comprising

removing the reference sample from the controlled environment prior to measuring the reference sample voltage; and

returning the reference sample to the controlled environment subsequent to the step of measuring the reference sample voltage.

6. (Original) The method of claim 4, wherein the step of controlling the environment around the reference sample comprises exposing an isolated chamber storing the reference sample to one or more environmental parameters, and wherein the step of measuring the reference sample voltage comprises terminating the exposure of the one or more environmental parameters to the isolated chamber.

7. (Original) The method of claim 4, wherein the step of controlling the environment around the reference sample comprises storing the reference sample in an isolated area.

8. (Original) The method of claim 4, wherein the step of controlling the environment around the reference sample comprises purging an area around the reference sample with an inert gas.

9. (Original) The method of claim 8, wherein the step of purging comprises purging the area at time intervals between approximately 0.001 seconds and approximately 1 hour at a frequency between approximately 0.0001 Hz and approximately 1 KHz.

10. (Original) The method of claim 4, wherein the step of controlling the environment around the reference sample comprises illuminating the reference sample.

11. (Original) The method of claim 4, wherein the step of controlling the environment around the reference sample comprises inducing a vacuum about the reference sample.

12. (Original) The method of claim 4, wherein the step of controlling the environment around the reference sample comprises maintaining the controlled environment at a temperature between approximately 20 °C and approximately 1000 °C for a time period between approximately 1 second and approximately 1 hour.

13. (Original) The method of claim 1, wherein the step of preparing the reference sample comprises stripping a surface of the reference sample.

14. (Original) The method of claim 1, wherein the step of preparing the reference sample comprises forming a layer upon a surface of the reference sample.

15. (Original) The system of claim 1, wherein the reference sample comprises doped microelectronic materials.

16. (Original) The system of claim 1, wherein the reference sample comprises noble metals.

17. - 55. (Canceled)